

Genetics Lesson Module

Introduction: Modern technology is changing the way we look at genetics by: increasing our knowledge of the human genome, new tests for genetic disorders, and giving us new tools to solve crimes. Everyday the field of genetics is growing as scientists find new and novel ways of applying the methods and technology that modern molecular genetics has given us.

Grade Levels: 6-9

Standards and Benchmarks:

Lesson Plan 1- Introduction to DNA- Function and Structure (Standard 2.4, 3.1, 3.2)

Lesson Plan 2- Homozygous and Heterozygous Traits- Create-a-Kid or Create-a-Monster Activities

Lesson Plan 3- Human Genetics- Looking at your own traits

Lesson Plan 4- DNA Mutations- Become a Genetic Counselor

Lesson Plan 5- Karyotyping Scavenger Hunt

Lesson Plan 6- Wyoming CSI- The Case of the Crown Jewels

Overall Objectives:

- A. Appreciation of the technology used to study genetics
- B. Awareness of genetic disorders
- C. Understanding of homozygous and heterozygous traits
- D. Understanding what a karyotype is
- E. Appreciation of DNA testing and its use to solve crimes

Expectations of prior knowledge: Cell structure and function

Estimated Time: 5-6 class periods